

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Wu et al.

Attorney Docket No.: NOVLP097/NVLS-2906

Application No.: 10/807,680

Examiner: UNASSIGNED

Filed: March 23, 2004

Group: 2812

Title: METHODS OF POROGEN REMOVAL  
FOR POROUS LOW DIELECTRIC  
CONSTANT FILMS USING PLASMA  
TREATMENTS

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on February 28, 2005 in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

Signed:

Joyce L. Ferreira

**INFORMATION DISCLOSURE STATEMENT  
37 CFR §§1.56 AND 1.97(b)**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The references listed in the attached PTO Form 1449, copies of which are attached, may be material to examination of the above-identified patent application. Applicants submit these references in compliance with their duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

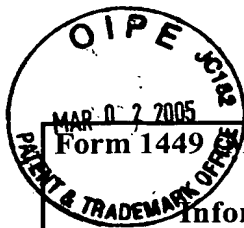
This Information Disclosure Statement is: (i) filed within three (3) months of the filing date of the above-referenced application, (ii) believed to be filed before the mailing date of a first Office Action on the merits, or (iii) believed to be filed before the mailing of a first Office Action after the filing of a Request for Continued Examination under §1.114. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. NOVLP097).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

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P.O. Box 70250  
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<b>Form 1449 (Modified)</b> <b>Information Disclosure Statement By Applicant</b> (Use Several Sheets if Necessary)	Atty Docket No. NOVLP097/ NVLS-2906 Applicant: Wu et al. Filing Date March 23, 2004	Application No.: 10/807,680  Group 2812
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#### U.S. Patent Documents

Examiner Initial	No.	Publication/ Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A1	6,329,017	12/11/01	Liu et al.			10/04/99
	A2	6,383,466	5/7/02	Domansky et al.			12/28/98
	A3	6,365,266	4/2/02	MacDougall et al.			03/03/00
	A4	5,504,042	4/2/96	Cho et al.			06/23/94
	A5	5,858,457	1/12/96	Brinker et al.			09/25/97
	A6	6,270,846	8/7/01	Brinker et al.			03/02/00
	A7	6,387,453	5/14/02	Brinker et al.			03/02/00
	A8	6,420,441	10/10/99	Allen et al.			12/10/99
	A9	6,271,273	10/10/00	You et al.			10/10/00
	A10	20040096672	05/20/04	Lukas et al.			11/14/02
	A11	6,444,715	09/03/02	Mukherjee, et al.			06/06/00

#### Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	A12	Humayun et al., "Method For Forming Porous Films By Porogen Removal Combined With In Situ Surface Modification", U.S. Application No. 10/404,693, filed March 31, 2003
	A13	Cho et al., "Method And Apparatus For UV Exposure Of Low Dielectric Constant Materials For Porogen Removal And Improved Mechanical Properties", U.S. Patent Application No. 10/800,377, filed March 11, 2004
	A14	Bandyopadhyay et al., "Method to Improve Mechanical Strength of Low-K Dielectric Film Using Modulated UV Exposure", U.S. Patent Application No. 10/825,888, filed April 16, 2004
	A15	Tipton et al., "Method Of Porogen Removal From Porous Low-K Films Using Uv Radiation", U.S. Patent Application No. 10/672,311, filed September 26, 2003
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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	B1	6,420,441	10/10/99	Allen et al.			12/10/99
	B2	6,271,273	10/10/00	You et al.			10/10/00
	B3	4,885,262	12/5/89	Ting et al.			03/08/89
	B4	5,686,054	11/11/97	Barthel et al.			05/16/95
	B5	5,851,715	12/22/98	Barthel et al.			06/18/97
	B6	6,140,252	10/31/00	Cho et al.			05/05/98
	B7	6,392,017	5/21/02	Chandrashekar			08/04/00
	B8	6,386,466	5/14/02	Ozawa et al.			04/11/00
	B9	4,357,451	11/2/82	McDaniel			08/28/01
	B10	6,479,374	11/12/02	Ioka et al.			09/27/00
	B11	6,548,113	4/15/03	Birnbaum et al.			11/09/00
	B12	20020034626	03/21/02	Liu, et al.			04/18/01
	B13	20020001973	01/03/02	Wu, et al.			04/24/01

#### Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	B14	Cho et al., "Plasma Treatments of Molecularly Templated Nanoporous Silica Films," Electrochemical and Solid-State Letters, 4 (4) G35-G38 (2001)
	B15	Yung et al., "Spin-on Mesoporous Silica Films with Ultralow Dielectric Constants, Ordered Pore Structures, and Hydrophobic Surfaces," Adv. Mater. 2001, 13, No. 14, 1099-1102
Examiner		Date Considered

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	Applicant:	
	Wu et al.	
	Filing Date	Group
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**Other Documents**

	C1	Schulberg et al., "System for Deposition of Mesoporous Materials," U.S. Patent Application No. 10/295,965, filed November 15, 2002, 64 Pages
	C2	Watkins et al., "Mesoporous Materials and Methods," U.S. Patent Application No.10/301,013, filed November 21, 2002, 34 Pages
	C3	Gangpadhyay et al., "The First International Surface Cleaning Workshop," Northeastern University, November 11-14, 2002
	C4	Justin F. Gaynor, "In-Situ Treatment of Low-K Films With a Silylating Agent After Exposure To Oxidizing Environments," U.S. Patent Application No.10/056,926 filed January 24, 2002, 34 Pages
Examiner		Date Considered

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